



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION:	CF34-10E7	BYPASS RATIO:	5.1
UNIQUE ID NUMBER:	10GE133	PRESSURE RATIO ( $\pi_{00}$ ):	27.3
COMBUSTOR:	2253M21		
ENGINE TYPE:	TF	RATED THRUST ( $F_{00}$ ) (kN):	83.7

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	12.7	92.0	46.1	20.6
AS % OF ORIGINAL LIMIT	64.8	78.0	48.7	82.9
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			60.9	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			72.3	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			81.0	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			95.1	

### DATA STATUS

- PRE-REGULATION  
 x CERTIFICATION  
 - REVISED (SEE REMARKS)

### TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES  
 x DEDICATED ENGINES TO PRODUCTION STANDARD  
 - OTHER (SEE REMARKS)

### EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE  
 (ANNEX 16 VOLUME II)

### CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)  
 x OUT OF PRODUCTION (DATE: - )  
 - OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO <sub>x</sub>	
TAKE-OFF	100	0.7	0.866	0.05	0.84	20.83	16.0
CLIMB OUT	85	2.2	0.714	0.07	0.42	16.93	7.7
APPROACH	30	4.0	0.237	0.12	3.15	8.43	0.1
IDLE	7	26.0	0.087	4.99	44.53	3.67	0.3
LTO TOTAL FUEL (kg) or EMISSIONS (g)			323	690	6273	3328	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				8.2	74.9	39.8	16.0
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				0.5	1.8	0.4	0.1
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				7.7-8.6	73.7-77	39.3-40.1	15.9-16.2

### ACCESSORY LOADS

POWER EXTRACTION	0	(kW)	AT	All	POWER SETTINGS
STAGE BLEED	0	(% CORE FLOW)	AT	All	POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.2-97.9
TEMPERATURE (K)	296-300
ABS HUMIDITY (kg/kg)	0.0099-0.0127

### FUEL

SPEC	Jet A-1
H/C	1.92
AROM (%)	16.3-17.4

MANUFACTURER: General Electric Company  
 TEST ORGANIZATION: Peebles Test Operation  
 TEST LOCATION: Site 4D  
 TEST DATES: 05/09/2006-10/09/2006

### NO<sub>x</sub> REGULATION PARAGRAPH

	2.3.2 c) (CAEP/4)
	2.3.2 d) (CAEP/6)
x	2.3.2 e) (CAEP/8)

### REMARKS

1. GE Report R2006AE716
2. Block 2 Engines
3. Engine 994-251/1
4. Engines with 2253M21 combustor produced beginning August 2007
5. Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
6. NO<sub>x</sub> levels in accordance with Part III, Chapter 2, 2.3.2 e)

Compliance with Fuel Venting requirements: x ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)